Before the
FEDERAL COMMUNICATIONS COMMISSION
Washington, D.C. 20554

In the Matter of	)	
	)	
Telecommunications Relay Services and	)	CG Docket No. 03-123
Speech-to-Speech Services for Individuals	)	
with Hearing and Speech Disabilities	)	

COMMENTS OF SPRINT CORPORATION

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Sprint Corporation ("Sprint") hereby files these comments in response to the requests for comment of the Consumer and Governmental Affairs Bureau ("Bureau") of the Federal Communications Commission ("FCC" or "Commission") on the applications of Clarity Products, LLC ("Clarity Products"),[1] MachineGenius, Inc. ("MachineGenius"),[2] and VTCSecure, LLC ("VTCSecure")[3] (collectively, the "Applicants" and "Applications," as appropriate) for certification to provide Internet Protocol Captioned Telephone Service ("IP CTS").

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[1] Application of Clarity Products, LLC, for Internet-Based TRS Certification, CG Docket No. 03-123 (filed Apr. 24, 2019) ("Clarity Application"); *Telecommunications Relay Service and Speech-to-Speech Services for Individuals with Hearing and Speech Disabilities*, Public Notice, CG Docket No. 03-123, DA 19-820 (rel. Aug. 26, 2019).

[2] Application of MachineGenius Inc. for Internet-Based TRS Certification, CG Docket No. 03-123 (filed Oct. 13, 2017) ("MachineGenius Application"); *Telecommunications Relay Service and Speech-to-Speech Services for Individuals with Hearing and Speech Disabilities*, Public Notice, CG Docket No. 03-123, DA 19-819 (rel. Aug. 26, 2019).

[3] Application of VTCSecure, LLC for Internet-Based TRS Certification, CG Docket No. 03-123 (filed May 26, 2017) ("VTCSecure Application"); *Telecommunications Relay Service and Speech-to-Speech Services for Individuals With Hearing and Speech Disabilities*, Public Notice, CG Docket No. 03-123, DA 19-818 (rel. Aug. 26, 2019).

I. INTRODUCTION AND SUMMARY

Sprint commends the Commission for seeking public comment on the Applications, each of which seeks certification for an IP CTS offering that relies on automatic speech recognition ("ASR") technology. For the reasons Sprint raised in its pending Petition for Clarification or, in the Alternative, Reconsideration,[4] it is important for the Commission to develop a fulsome record on these Applications and on ASR more broadly before introducing ASR-based IP CTS services into the marketplace. As Commissioner Rosenworcel recently emphasized, it makes little sense to rush "ahead to include automatic speech recognition in IP CTS without first asking [whether] it meet[s] the threshold of functional equivalency."[5] By taking further action on the instant Applications before establishing the minimum standards that will govern ASR-based IP CTS, the FCC risks "opening the door to the deployment of ASR solutions with potentially serious quality shortcomings."[6]

In light of these valid concerns, Sprint urges the Commission to reorder its process to ensure that new ASR-based IP CTS services meet the agency's statutory obligations to ensure

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4 Petition for Clarification or, in the Alternative, Reconsideration, Sprint Corporation, CG Docket Nos. 13-24 and 03-123 (filed July 9, 2018).

5 Remarks of Commissioner Jessica Rosenworcel, TDI Biennial Conference, Gallaudet University (Aug. 15, 2019); *see also Misuse of Internet Protocol (IP) Captioned Telephone Service; Telecommunications Relay Services and Speech-to-Speech Services for Individuals with Hearing and Speech Disabilities,* Report and Order, Notice of Inquiry, Further Notice of Proposed Rulemaking, and Declaratory Ruling, 33 FCC Rcd 5800 at 5900 (2018) (Concurring Statement of Commissioner Jessica Rosenworcel) (It is "inexplicabl[e]" that the FCC authorizes ASR "today but puts off for the future figuring out . . . what service quality standards hard-of-hearing users can expect.") ("*Order*," *"Declaratory Ruling*," "*Further Notice*," or "*Notice of Inquiry*," as appropriate).

6 Letter from Telecommunications for the Deaf and Hard of Hearing, Inc., the Hearing Loss Association of America, and the Gallaudet University Technology Access Program, to Marlene H. Dortch, FCC Secretary, CG Docket Nos. 03-123 and 13-24, at 2 (May 25, 2018).

that the certificated services are "functionally equivalent" and are provided in an efficient, cost-effective manner.[7] Toward that end, the FCC should:

1. Establish metrics that ensure the functional equivalency of ASR-based IP CTS services;
2. Establish revised rules that recognize the inherent differences between IP CTS based on ASR and traditional service with a communications assistant ("CA");
3. Establish the reimbursement rate for ASR-based services capable of meeting these metrics and fulfilling these rules; and
4. Only after completing these steps, certify companies that demonstrate that they (a) are capable of providing ASR-based IP CTS that meets and complies with the established metrics and rules and (b) are willing to provide such service at the established reimbursement rate.

Sprint looks forward to working with the Bureau to ensure that these safeguards are adopted in the appropriate order such that ASR-based IP CTS services are certificated and provided in a manner that does not compromise the Commission's statutory obligations.

II. THE COMMISSION FIRST SHOULD ESTABLISH STANDARDIZED METRICS TO ENSURE THE "FUNCTIONAL EQUIVALENCE" OF ASR-BASED IP CTS SERVICE

Allowing the proliferation of ASR-based IP CTS services without *first* ensuring that these services are functionally equivalent will undermine and dilute the quality of IP CTS services nationwide. At a minimum, the Bureau must ensure that each certificated ASR-based offering is comparable in quality to current IP CTS offerings, relying on standardized metrics to make that comparison.

Both the Commission and the FCC's contractor, MITRE Corporation, have recognized the need for these sorts of metrics and evaluation. The FCC urged applicants with ASR-based services to support their applications with "trials and quantitative test results demonstrating that the applicant's service will afford a level of quality that is at least comparable to currently

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[7] *See* 47 U.S.C. § 225(b)(1); 47 U.S.C. § 225(a)(3).

available CA-assisted IP CTS with respect to captioning transcription delays, accuracy, speed, and readability."[8] The Commission also recognized that it can only ensure that its "performance goals are being met" by "defin[ing] measurements that can provide valuable empirical evidence to objectively assess these goals."[9] MITRE similarly recommended ongoing work to assess the feasibility of ASR-based IP CTS offerings and develop "minimum specifications and requirements."[10]

At this point, however, the Commission and the industry have not completed the work needed to establish the appropriate quality metrics for IP CTS more broadly, much less more nuanced specifications for ASR-based IP CTS. As a result, the Applicants unsurprisingly supplied testing results that are based on their own chosen standards.[11] For a number of reasons, these results simply are insufficient to demonstrate that the Applicants' proposed services truly are comparable to existing IP CTS offerings.

First, the test results provided often are not detailed enough to allow the Bureau to engage in reasoned decision-making. For example, while the accuracy of captioning is of critical

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8 *Declaratory Ruling* at 5834.

9 *Notice of Inquiry* at 5870.

10 The MITRE Corporation, *Internet Protocol Caption Telephone Services (IP CTS) – Summary of Phase 2 Usability Testing Results*, CG Docket Nos. 03-123 and 13-24, at 15 (Apr. 11, 2018).

11 *See, e.g.*, Clarity Application, Appendix D, "In-house Testing Speed;" VTCSecure Application at 2 ("Under ideal conditions, VTCSecure has seen over 99% accuracy in situations where there is no Communications Assistant and the ASR engine is receiving HD voice."); *id.* at 3 ("Using ASR also means VTCSecure IP CTS can convert more than 200 words per minute[.]"); *id.* ("VTCSecure has tested this with hard of hearing users and many very much preferred the speed of ASR over traditional IP CTS"); MachineGenius Application at 8 ("speed-to-answer is on the order of tens of milliseconds and queuing of calls is nonexistent"); *id.* at 9 ("MachineGenius' IP CTS provides a seamless user experience combined with highly-accurate transcription and captioning."); *id.* at Exhibit A, ASR Information.

importance in IP CTS, Clarity simply indicates that "internal testing has shown a very high level of accuracy."[12]

Second, the test results provided often reflect the results of private testing.[13] Any tests and trials the FCC intends to rely upon for purposes of ensuring that a new technology is functionally equivalent must be based on publicly developed, transparent, and standardized metrics. If the Commission were to rely solely on private, off-the-record testing, that would completely defeat the purpose of allowing public notice and comment on the Applications. Concerned parties have no way to verify assertions that, for example, "performance does not diminish with increased call volume"[14] or that "IP CTS can convert more than 200 words per minute."[15]

Third, the test results do not establish that the Applicants' proposed offerings adequately address the critical differences between today's IP CTS and ASR-based IP CTS. Perhaps most importantly, while the Applicants largely propose to eliminate CAs from call flows,[16] having a

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12 Clarity Application at 6.

13 *See* note 11 *supra*.

14 MachineGenius Application at 8.

15 VTCSecure Application at 3.

16 Both Clarity and MachineGenius indicate that their ASR-based products will not involve a CA at all. *See, e.g.*, Clarity Application at 19 ("Unlike most IP CTS systems, CAPTIONMATE operates without CAs. . . . Waiver would therefore serve the public interest by enabling more advanced IP CTS capabilities while reducing privacy risks to consumers."); MachineGenius Application at 12 ("MachineGenius' service relies on ASR, thus, to the extent that the rules are applicable to CAs, MachineGenius requests these requirements be waived."). In turn, VTCSecure indicates that the "use of ASR technology allows for the potential elimination of the CA for a IP CTS call[] in perfect conditions." VTCSecure Application at 4. Outside of "perfect conditions," VTCSecure seems to concede a CA will continue to be necessary to ensure that IP CTS users receive adequate service, but VTCSecure is the only one of the three Applicants that indicates an ability to provide CA-based service. *See also id*. at 5, n.5 (indicating that VTCSecure initially would provide traditional CA-assisted IP CTS service

CA involved in IP CTS calls traditionally has served many important purposes in ensuring that IP CTS service is functionally equivalent. For example, a CA can play a pivotal role in emergency calls to 911 and other critical calls to health care professionals. As the American Speech-Language-Hearing Association aptly noted, the "availability of the CA to provide some understanding of the context of the emergency situation and communications needs of the consumer is critical in an emergency."[17] Even Applicant VTCSecure implicitly recognizes the need for CAs in these circumstances, indicating that its "plan is to always have an agent come on during an emergency call."[18] The Commission alluded to this very fact by seeking comment on whether there are any "unique challenges with respect to relaying calls to 911 associated with any of the methods used to generate IP CTS captions," including "fully automated ASR" and "CA-assisted ASR."[19] It would be illogical and reckless to grant the Applications, particularly those that would do away with CAs entirely, without first resolving this outstanding question and adopting any necessary safeguards.

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As it stands, the test results provided are not and cannot be a substitute for standardized metrics, which do not exist today either for ASR-based services or for the CA-assisted IP CTS services that the FCC has asked applicants to use as a basis for comparison. Fortunately, the

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until such time as the Commission notified it in writing that the company is authorized to use ASR technology).

[17] Letter from American Speech-Language-Hearing Association, to Marlene H. Dortch, FCC Secretary, CG Docket Nos. 03-123 and 13-24, at 2 (Apr. 15, 2019).

[18] VTCSecure, LLC Request for Waiver, CG Docket No. 03-123, at 3 (Sept. 13, 2019) ("VTCSecure Waiver Request").

[19] *Further Notice* at 5867.

industry is continuing its efforts to agree on quality of service standards to govern IP CTS,[20] which the Commission can then use as a starting point for developing sets of standardized metrics that are tailored to traditional IP CTS and ASR-based IP CTS. Only *after* these metrics are developed and implemented will the Bureau have an appropriate basis for evaluating whether the proposed ASR-based offerings can be provided in a functionally equivalent fashion.[21]

III. THE COMMISSION'S CURRENT RULES ARE BOTH OVERINCLUSIVE AND UNDERINCLUSIVE AND SHOULD BE REVISED TO SUIT ASR-BASED SERVICES

The Commission's current rules were crafted to suit CA-based services, and acting on the Applications would require the Bureau to stretch and distort these rules to assess the very different ASR-based services proposed by the Applicants. On one hand, the current rules are overinclusive because they include a variety of requirements that relate to CA performance issues and in no way relate to ASR-based services that do not involve a CA. As a result, all three

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[20] *See, e.g.*, Letter from Hamilton Relay, Inc., Mezmo Corporation (dba InnoCaption), ClearCaptions, LLC, CaptionCall, LLC, Sprint Corporation, and Ultratec, Inc., to Marlene H. Dortch, FCC Secretary, CG Docket Nos. 03-123 and 13-24 (Sept. 20, 2019) (jointly updating the FCC on "their significant progress towards developing IP CTS quality of service metrics, testing methodologies, and standards").

[21] Sprint recognizes that the Commission previously suggested that it could assess functional equivalence after the service is introduced. *Declaratory Ruling* at 5829-30 ("As IP CTS providers begin offering fully automated ASR, we will be able to gather data that can inform our adoption of further measures to improve its utility."). In order to fulfill its statutory functional equivalence mandate, however, ASR-based services must be vetted *prior to* introduction into the marketplace. Otherwise, consumers would be forced to suffer the consequences of any service deficiencies that the Commission might discover months or even years after the service is introduced.

Applicants have had to submit a series of waiver requests related to rules that could not rationally be applied to an ASR-based service.[22]

On the other hand, simply granting these waivers would result in the Applicants being subject to a set of rules that is underinclusive. Just as there are certain rules that can only rationally be applied to CA-based services, there also are certain minimum standards and technical parameters that would only be appropriate for ASR-based services. For example, while there would be no need to address privacy concerns stemming from the fact that a CA listened to a call, it would be logical for the Commission to establish rules for encrypting transcription information and other data privacy requirements that would apply to ASR-based services. When a CA is eliminated, the Commission also should consider rules that address the fact that "ASR systems routinely fail to present names and technical terms properly, they stumble on accented or mumbled speech or background noises, omit punctuation, and can have difficulty determining the differences between what a speaker 'said' and what they actually 'meant.'"[23] Given that the Applicants themselves recognize these issues with a purely ASR-based service,[24] it would make little sense for the Commission to move forward without rules in place that address these known problems.

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[22] *See, e.g.*, VTCSecure Waiver Request at 1-4 (requesting waivers of 47 C.F.R. §§ 64.604(a)(1), 64.604(a)(2), 64.604(a)(3)(vii), 64.605(a)(2)(iv)-(v), 64.611(j)(1)(v), and 64.604(c)(5)(iii)(D)(2)(ii)); Clarity Application at 15-19 (requesting waivers of 64.604(a)(3)(vii)-(viii), 64.604(c)(5)(iii)(D)(2)(ii), (ix), and (x); 64.605(a)(2)(ii)-(iii), and 64.611(j)(1)(v)); MachineGenius Application at 12 (requesting waivers of §§ 64.604(a)(1)(i)-(iii)); MachineGenius, Inc. Request for Waiver, CG Docket No. 03-123 (filed Oct. 13, 2017).

[23] David Titmus, *Will the FCC's Allowance of ASR for Captioned Telephone Service Be a Help or Hindrance?*, VITAC (June 19, 2018), https://www.vitac.com/will-the-fccs-allowance-of-asr-for-captioned-telephone-service-be-a-help-or-hindrance/.

[24] *See also* VTCSecure Application at 4; Clarity Application at Appx. C-1 (noting that the "speed and quality" of its service is "dependent on the clarity of the remote speaker's voice as well as the amount of background noise").

By again putting the cart before the horse in failing to establish rules to govern ASR-based services, the Commission has both harmed the consumers who will suffer if ASR-based IP CTS is not functionally equivalent and established a difficult process for potential ASR-based providers, which must navigate the waiver request process before being certificated. Fortunately, the Commission again easily can rectify this issue by establishing both metrics and revised rules *before* acting on applications for ASR-based IP CTS.

IV. THE COMMISSION THEN MUST ESTABLISH THE REIMBURSEMENT RATE FOR ASR-BASED SERVICES IN ORDER TO ENSURE THAT SERVICES ARE MADE AVAILABLE IN THE MOST COST-EFFECTIVE, EFFICIENT MANNER POSSIBLE

There appears to be a consensus among the Commission and the three Applicants that ASR-based IP CTS services will be less costly to provide than current IP CTS services.[25] Assuming *arguendo* that this is true, then there is no basis for compensating ASR-based IP CTS providers at the same rate as other IP CTS providers.

Compensating ASR-based IP CTS providers at the higher IP CTS rate would run counter to the Commission's statutory obligation to "ensure that interstate and intrastate telecommunications relay services are [made] available… in the *most efficient manner*."[26] Compensating ASR-based providers at the current $1.58 IP CTS rate also would effectively provide ASR-based providers an unearned subsidy above their claimed lower costs. The Applicants even confirm the existence of such a subsidy. For example, VTCSecure proposes a tiered rate structure for each minute where a CA is not required on an ASR-based IP CTS call,

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[25] *See, e.g.*, *Declaratory Ruling* at 5828 ("the substantially lower costs of ASR can allow for the provision of IP CTS with far greater efficiency"); VTCSecure Application at 1 (citing "significantly reduced rates"); Clarity Application at 6 (indicating that Clarity can provide its ASR-based IP CTS service "at a much lower cost"); MachineGenius Application at 10 (citing "the lower per-minute cost-of-delivery associated with the MachineGenius solution").

[26] 47 U.S.C. § 225(b)(1) (emphasis supplied).

indicating that the "tiered system will allow for profits made at the higher rate ASR tiers to be translated into an overall reduction of costs for calls that do require a CA."[27]

Indeed, the Commission appeared to recognize the need to conduct a more fulsome evaluation of the ASR compensation rate, seeking comment last year on the appropriate rate for IP CTS provided using ASR.[28] It would make little sense to proceed on an application-by-application basis before completing this rulemaking proceeding. Moreover, it would be impossible for the Commission (or Bureau) to determine the appropriate rate for ASR-based IP CTS until it establishes the minimum standards that ASR-based providers must meet. It would hardly be surprising to find that the costs of providing ASR-based services that are comparable in quality to current IP CTS services and meet minimum ASR-specific technical requirements are higher than the initial estimates provided by the Applicants or submitted elsewhere in the record.

V. CONCLUSION

Sprint respectfully submits that there is only one logical path forward that will ensure that ASR-based IP CTS is offered in a functionally equivalent and cost-effective manner. The Commission first should establish the quality metrics that will be used to assess ASR-based IP CTS and revised rules that are duly suited to ASR-based services. The Commission then should establish the costs of providing service that meets these metrics. After these foundational steps

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[27] VTCSecure Application at 5. VTCSecure continues that its proposal would result in a "rate cut [that] could be applied industry-wide, ensuring an accelerated rate reduction for traditional IP CTS which requires a CA." *Id.* It is entirely unclear how such a mechanism would work without penalizing those providers that supply only CA-based IP CTS service. Accordingly, the FCC should either reject this proposal outright or, at a minimum, require VTCSecure to further explain this aspect of its proposal to ensure that it does not favor one approach over another. Consumer choices must be permitted to dictate which services are used, not a preferential rate structure.

[28] *Further Notice* at 5846-47.

are complete, the Commission can and should move forward in certificating ASR-based IP CTS providers that intend to provide functionally equivalent service at the appropriately established compensation rate. Until then, however, it would be premature for the Commission to take any further action on the Applications.

Respectfully submitted,

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